SUPPORT FOR THE AMENDMENTS

Support for the amendment of Claim 6 is found on page 15, lines 2-9, of the specification and in Fig. 10.

No new matter is added to this application by entry of this amendment.

Claims 6, 7 and 12-15 are active in this application.

REMARKS/ARGUMENTS

The claimed invention provides an ultrasonic sensor comprising: a semiconductor crystal substrate having a recess formed on a part of an upper surface thereof; a γ-Al_2O_3 single crystal film epitaxially grown on a semiconductor single crystal substrate; an epitaxial single crystal Pt thin film disposed on the γ-Al_2O_3 single crystal film; a highly oriented ferroelectric thin film disposed on the epitaxial single crystal Pt thin film; and an upper electrode disposed on the ferroelectric thin film; wherein the γ-Al_2O_3 single crystal film overhangs the recess formed on a part of the upper surface of the semiconductor crystal substrate; the semiconductor single crystal substrate etched from the upper surface thereof to adjust a resonant frequency and detect an ultrasonic wave.

Applicants respectfully note that Claim 6 is amended to describe a sensor as shown in Fig. 10 and described on page 15, lines 2-9, in the specification.

The rejection of Claims 6 and 12-15 under 35 U.S.C. 102(b) over Tomita et al. (JP 09-089651) is respectfully traversed.

Tomita describes a thin film infrared sensor [0001] having silicon substrate, an aluminum oxide layer on the upper surface of the substrate [0012], a platinum electrode on the aluminum oxide foundation, a PZT thin film on the platinum electrode[0015] and an

upper metal electrode [0016]. This sensor is shown in Figure 1 of the reference. As indicated in Fig. 1, the Aluminum oxide layer (2) is supported on a Si substrate.

In contrast the presently claimed invention provides an ultrasonic sensor comprising: a semiconductor crystal substrate having **a recess formed on a part of an upper surface** wherein the γ-Al_2O_3 single crystal film and the layers formed thereon **overhang the recess** as shown in Figure 10.

Nowhere does Tomita disclose or suggest a sensor structure as presently claimed.

Applicants respectfully submit that a proper finding of anticipation requires that "[e]very element of the claimed invention ... be literally present, arranged as in the claim. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 673; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771-72, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 [224 USPQ 520] (1984). The identical invention must be described in as complete detail in the reference as is described in the claimed invention.

In view of the above, Applicants submit that Tomita cannot anticipate the presently claimed invention and withdrawal of the rejection of Claims 6 and 12-15 under 35 U.S.C. 102(b) over Tomita is respectfully requested.

The rejection of Claim 7 under 35 U.S.C. 103(a) over Tomita in view of Ziegler (U.S. 6,238,946) is respectfully traversed.

Applicants respectfully note that Claim 7 directly depends from Claim 6 and therefore includes all the description of the independent claim. The deficiency of Tomita to describe the presently claimed invention is described above.

The Office has acknowledged that Tomita does not disclose the use of an SOI substrate (Official Action dated May 14, 2009, page 4, paragraph 11) and cites Ziegler to show a SOI substrate.

Ziegler describes a procedure to fabricate band pass filter resonators, wherein a MEMS device lies below the silicon substrate surface (Abstract). Nowhere does this

reference disclose or suggest the structure shown in Fig. 10 of the present invention. Therefore the secondary reference cannot cure the deficiency of the primary reference and the two references combined cannot render the claimed invention obvious. Accordingly, withdrawal of the rejection of Claim 7 under 35 U.S.C. 103(a) over Tomita in view of Ziegler is respectfully requested.

The rejection of Claim 14 under 35 U.S.C. 103(a) over Tomita in view of Lampe et al. (U.S. 5,146,299), Beitel et al. (U.S. 2002/0155660), Asano et al. (U.S. 5,621,839) and Hong (U.S. 2002/0142488) is respectfully traversed.

Applicants respectfully note that Claim 14 directly depends from Claim 6 and therefore includes all the description of the independent claim. The deficiency of Tomita to describe the presently claimed invention is described above. Each of the secondary references is cited to show specific examples of ferroelectric materials as shown in Claim 14. However, none of the secondary references discloses or suggests a structure as described in Claim 6 and shown in Fig. 10 of the present invention. Accordingly, none of the cited reference combinations can render the claimed invention obvious and withdrawal of the rejection of Claim 14 under 35 U.S.C. 103(a) over Tomita in view of Lampe, Beitel, Asano and Hong is respectfully requested.

Applicants respectfully submit that the above-identified application is now in condition for allowance and early notice of such action is earnestly solicited.

Respectfully submitted,

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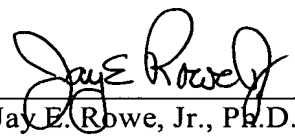
Norman F. Oblon



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